

We claim:

1. A process for the single-stage preparation of polyoxyalkylene glycols by copolymerization of THF and alpha, omega-diols in the presence of a heteropolyacid,
5 wherein the content of organically bound nitrogen in the alpha, omega-diol is less than 15 ppm.
2. A process for the single-stage preparation of polyoxyalkylene glycols as claimed
10 in claim 1, wherein the content of organically bound nitrogen in the alpha, omega-diol is less than 10 ppm.
3. A process for the single-stage preparation of polyoxyalkylene glycols as claimed
15 in claim 1 or 2, wherein the content of organically bound nitrogen in the alpha, omega-diol is achieved by treatment of technical-grade alpha, omega-diols by recrystallization, solvent extraction or by treatment with an ion exchanger.
4. A process for the single-stage preparation of polyoxyalkylene glycols as claimed
20 in any of claims 1 to 3, wherein a C₂-C₁₀-alkanediol or a THF copolymer with C₂-C₁₀-alkanediols having a mean molecular weight of from 200 to 600 dalton is used as alpha, omega-diol.
5. A process for the single-stage preparation of polyoxyalkylene glycols as claimed
25 in any of claims 1 to 4, wherein from 3 to 20% by weight of alpha, omega-diol, based on tetrahydrofuran, is used.
6. A process for the single-stage preparation of polyoxyalkylene glycols as claimed
in any of claims 1 to 5, wherein the copolymerization is carried out in the presence of a hydrocarbon.
- 30 7. A process for the single-stage preparation of polyoxyalkylene glycols as claimed in any of claims 1 to 6, wherein the process is carried out continuously.
8. A process for the single-stage preparation of polyoxyalkylene glycols as claimed
35 in any of claims 1 to 7, wherein the copolymerization is carried out at from 20 to 100°C.
9. A process for the single-stage preparation of polyoxyalkylene glycols as claimed in any of claims 1 to 8, wherein neopentyl glycol is used as alpha, omega-diol.